

**REMARKS**

**I. STATUS OF THE CLAIMS**

Claims 1-21 are currently pending. Applicant has amended claim 1 by incorporating the limitations of claim 22, which is now cancelled, and by clarifying that the product continuously or semi-continuously extracted from the channel is the intended precipitated calcium carbonate. Applicant has also amended claim 19 to correct an obvious error in claim dependency. Applicant submits that no new matter has been added by these amendments.

Applicant thanks the Office for withdrawing the objection to the Abstract, the Section 112, first paragraph rejection of "channels," the Section 112, second paragraph rejection, and the two Section 103 rejections over WO 96/23728 ("Laine I") or FI 60183 B ("Laine II) or Laine, "Manufacturing of Precipitated Calcium Carbonate" (Laine III).

**II. SECTION 112, FIRST PARAGRAPH REJECTION**

The Office has maintained its rejection of claims 1 and 20-22 under 35 U.S.C. §112, first paragraph for the reasons disclosed at pages 2-3 and 7 of the Office Action. While Applicant respectfully disagrees with the Office, in order to advance prosecution on the merits, Applicant has amended claim 1 to recite the calcium ion sources that the Examiner has indicated to be enabled. Accordingly, Applicant submits that this rejection is moot and respectfully requests this rejection be withdrawn.

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**III. SECTION 103(a) REJECTIONS**

(A) The Office has rejected claims 1-12 and 22 under 35 U.S.C. § 103(a) as unpatentable over Kosin et al. (U.S. Patent No. 4,888,160) for the reasons disclosed at pages 3 through 5 of the Office Action. Applicant respectfully traverses this rejection for at least the reasons presented below.

Applicant's invention, as recited in e.g., amended claim 1, is directed to a method of producing, continuously or semi-continuously, a product comprising precipitated calcium carbonate. The method comprises continuously or semi-continuously extracting from the channel said precipitated calcium carbonate suspended in an aqueous medium, produced by reaction of the calcium ion source and carbon dioxide in the channel.

In contrast, Kosin et al. teaches a batch process for producing precipitated calcium carbonate comprising injecting a gas containing carbon dioxide into a recycle system, which is in communication with a reaction vessel. The carbon dioxide containing gas is introduced at a turbulent point or area in the recycle system, which may contain in-line mixers. '160 patent at col. 2, lines 43-49 & col. 3, lines 41-50. The precipitated calcium carbonate is removed after being digested and agitated in the reaction vessel. *Id.* at col. 4, lines 42-48.

Applicant's invention is not obvious over Kosin et al. As an initial matter, a *prima facie* case of obviousness requires three basic criteria to be met. M.P.E.P. § 2142. First, the Office must establish that Kosin et al. teaches or suggests all the claim limitations. See M.P.E.P. § 2143.03. Second, the Office must establish that some suggestion or motivation, either in the references themselves or in the

knowledge generally available to one of ordinary skill in the art, exists to modify the reference. See M.P.E.P. § 2143.01. Finally, the Office must establish a reasonable expectation of success from the required modification. See M.P.E.P. § 2143.02. In the present case, at a minimum, Kosin et al. does not teach or suggest all the claim limitations nor is there a suggestion or motivation in the art to modify the teachings of Kosin et al.

First, contrary to the Office's argument (Office Action at 4), Kosin et al. does not teach or disclose a continuous or semi-continuous process comprising, *inter alia*, continuously or semi-continuously extracting from the channel said precipitated calcium carbonate suspended in an aqueous medium, produced by reaction of the calcium ion source and carbon dioxide in the channel.

Rather, Kosin et al. discloses a batch process that comprises a recycle piping system in communication with a reaction vessel. '160 patent at col. 3, lines 13-22; see also, Skuse Declaration at ¶6 (previously submitted). While Kosin et al. discloses that carbon dioxide and calcium hydroxide meet in the recycle line, Kosin et al. does not teach that the precipitated calcium carbonate is continuously or semi-continuously extracted from a channel. Specifically, Kosin et al. teaches that the mixing in the reaction vessel is necessary to maintain homogeneity (col. 3, lines 30-32) and that this mixing is necessary even after introduction of the carbon dioxide has been discontinued (col. 4, lines 45-48 & 65-66). See also, Skuse Declaration at ¶6. Hence, the precipitated calcium carbonate is extracted from the batch process, i.e., the reaction vessel, at a later time.

Accordingly, the Office is obligated to establish a motivation to modify the teachings of Kosin et al. to achieve Applicant's claimed process. See M.P.E.P. § 2143.01 It is well established that a motivation to modify the prior art must be present and must flow from some teaching in the art that suggests the desirability or incentive to make the modification needed to arrive at the claimed invention. See, e.g., *In re Napier*, 34 U.S.P.Q.2d 1782, 1784 (Fed. Cir. 1995). The Office has previously relied upon the decision of *In re Dilnot*, 138 U.S.P.Q. 248 (C.C.P.A. 1963), to modify the teachings of the reference. However, *In re Dilnot* does not provide the basis for the necessary motivation to modify Kosin et al. such that any of the claims would be rendered obvious. Applicant agrees with the Court of *In re Dilnot* that "[i]t is . . . well within the expected skill of the technician to operate a process continuously." *Id.* at 252. However, the Office must provide factual evidence of how one skilled in the art would then interpret the reference in light of *In re Dilnot*. See *In re Zurko*, 59 U.S.P.Q.2d 1693, 1697 (Fed. Cir. 2001) ("With respect to core factual findings in a determination of patentability, . . . the Board cannot simply reach conclusions based on its own understanding or expertise . . . Rather, the Board must point to some concrete evidence in the record in support of these findings.") It is simply not enough for the Office to provide an opinion. *Id.*

Applicant submits that one skilled in the art reading Kosin et al. would not design a continuous process that renders the claims obvious. As noted above, Kosin et al.'s process utilizes a closed stirred tank reactor with a recycle line. '160 patent at Examples 1-6 & Figure 1; Declaration of D. Skuse at ¶16. Kosin et al. teaches the use of an agitator or stirrer in order to maintain homogeneity. '160

patent at col. 3, lines 29-31; Declaration of D. Skuse at ¶¶6. The agitator/stirrer is explained to be necessary even after the carbon dioxide is no longer being added to carry out the reaction in the tank. '160 patent at col. 4, lines 45-48; Declaration of D. Skuse at ¶¶6. Kosin et al. also discusses the necessity of the recycle line. '160 patent at col. 5, lines 30-37 & Examples 1-6; Declaration of D. Skuse at ¶¶7. Accordingly, in view of these and other disclosures by Kosin et al., one of ordinary skill in the art would envision a continuous/semi-continuous process defined by a series of stirred tank reactors with one or more recycle lines. Declaration of D. Skuse at ¶¶8. One of ordinary skill in the art would not envision a channel, as claimed by Applicant, wherein reactants enter and the product leaves on a continuous or semi-continuous basis. *Id.* at ¶¶9.

Applicant submits that to conclude otherwise requires one to ignore the totality of the teachings of Kosin et al., as outlined above. (See Declaration of D. Skuse at ¶¶6-7). As the C.C.P.A. has noted "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Wesslau*, 147 USPQ 391, 393 (C.C.P.A. 1965). For example, the Office cannot simply rely on Kosin et al.'s disclosure regarding its recycle line without also relying on its disclosure regarding a reaction vessel.

Since Kosin et al. does not teach or suggest a continuous process as claimed, a *prima facie* case of obviousness has not been established. M.P.E.P. §

2142. Accordingly, the rejection under Section 103 has been overcome and Applicant respectfully requests it be withdrawn.

(B) The Examiner has rejected claims 13-21 under 35 U.S.C. § 103(a) as unpatentable over Kosin et al. (U.S. Patent No. 4,888,160) in view of Bleakley (EP 0 604 095) for the reasons disclosed at pages 5 through 7 of the Office Action.

Applicant respectfully traverses this rejection.

The only difference between this rejection and the previous rejection is the Office's reliance on Bleakley to provide the alleged motivation to modify the processes of Kosin et al. to include non-consumable solids. Office Action at 6. Accordingly, Applicant respectfully traverses this rejection for the reasons set forth above with regard to rejection (A) and incorporated fully herein by reference. Moreover, the secondary reference, Bleakley, does not teach or suggest a continuous or semi-continuous process.

Since neither Kosin et al. nor the secondary reference, Bleakley, teaches or suggests a continuous or semi-continuous process as claimed, a *prima facie* case of obviousness has not been established. M.P.E.P. § 2142. Accordingly, the rejection under Section 103 has been overcome and Applicant respectfully requests it be withdrawn.

#### IV. CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

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Please grant any extensions of time required to enter this response and  
charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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